

# Contents

Introduction	5
1. Environmentalism and Sustainability in Islam	7
2. Beginnings: Mud and Stone	12
3. Cave Dwellings	19
4. Courtyard Houses	22
5. The Marsh Arabs	25
6. Yurts: Central Asian Circular Tents	30
7. The Bedouin Tent	33
8. The <i>Qanat</i> Water Supply System	36
9. <i>Norias</i> : Islamic Water Wheels	40
10. Islamic Gardens	46
11. Islamic Windmills	52
12. <i>Bâdgîrs</i> : Islamic Air Conditioners	56
13. <i>Mashrabbiyahs</i> : Islamic Air Conditioners	60
14. <i>Yakhchâls</i> : Islamic Refrigerators	64
15. Pigeon Towers: Organic Fertilizer Factories	67
16. The Multipurpose Date Palm	71
17. The Blessed Olive Tree	75
18. Sun-Dried Fruits and Vegetables	80
19. Calabashes: Gorgeous Gourds	85
20. The First 'Green Campuses'	89
21. Fog Harvesting	94
22. <i>Baira</i> : Floating Gardens	98
23. 21 <sup>st</sup> Century Environmentalism	102
Glossary	107
Comprehension Questions	111
Select Bibliography	126

# Introduction

﴿إِنَّ الْأَرْضَ لِلَّهِ ...﴾ الأعراف: ١٢٨

“Verily, the earth is Allah’s ...” *Al-A’raf*: 128

The relationship between man and his environment is stated very clearly in the Qur’an and the *Sunnah* of the Prophet Muhammad ﷺ. Islam has never viewed the wondrous natural world as an untamed wilderness that needed to be controlled. Conversely, Muslims are encouraged to respect nature and to marvel at the signs of the Creator visible in the world around them. Allah’s creation is like an open book inviting all of mankind to observe His signs and reflect. Indeed, approximately one eighth of the Noble Qur’an exhorts believers to reflect on nature.

﴿إِنَّ فِي ذَلِكَ لَآيَةً لِّقَوْمٍ يَتَفَكَّرُونَ﴾ النحل: ٦٩

“... Verily, in this is a sign for people who think.” *An-Nahl*: 69

Because of man’s unique ability to reason, Allah has entrusted him as custodian (*khalâif al-‘ardh*) of His creation, earth. Muslims are admonished to live in harmony with their natural surroundings.

﴿إِنَّا عَرَضْنَا الْأَمَانَةَ عَلَى السَّمَوَاتِ وَالْأَرْضِ وَالْجِبَالِ فَأَبَيْنَ أَنْ يَحْمِلْنَهَا وَأَشْفَقْنَ مِنْهَا وَحَمَلَهَا الْإِنْسَانُ﴾ الأحزاب: ٧٢

“Verily, We did offer the trust or moral responsibility to the heavens and the earth, and the mountains, but they declined to bear it and were afraid of it. But man bore it.” *Al-Ahzâb*: 72





﴿وَإِذْ قَالَ رَبُّكَ لِلْمَلَائِكَةِ إِنِّي جَاعِلٌ فِي الْأَرْضِ خَلِيفَةً﴾ البقرة: ٣٠

“And (remember) when your Lord said to the angels: ‘Verily, I am about to establish on earth one who shall inherit it.’ *Al-Baqarah*: 30

Use of the earth’s vast resources is not unconditional. Unfortunately, our world today is suffering from catastrophic environmental problems. This is the direct result of man’s irresponsibility and mistaken belief that all of creation belongs to him and he can act with impunity in interacting with it. Mankind has over exploited these resources and has consequently created a frightening ecological imbalance. At the beginning of the 21<sup>st</sup> century, the wanton destruction caused to our natural world is only too apparent. Can man truly love his Creator in Heaven, if he shows no respect for His creation on earth? So, we must ask ourselves how wise and ethical a species we *Homo sapiens* really are!

To correct this imbalance, man must first reorient himself by submitting to his Creator and living a life in pious awe and gratitude. Only then can we begin to care for the planet given to us by Allah and rectify the damage done to it.

Over the past fourteen centuries, Muslims have honoured the trust bestowed on them by Allah. Being custodians of this beautiful earth, Islamic societies dutifully established a harmonious and sustainable relationship with their environment.

This book is meant to be a celebration of the ingenuity of Allah’s *khalâif al-‘ardh* (custodians of His earth) – across the length and breadth of *Dâr al-Islâm* – in developing ‘green’, eco-friendly, and sustainable technologies. They are all simple, practical and ‘doable’. They are traditional technologies of great intrinsic beauty reflecting an Islamic identity in tune with its natural environment. And they can still offer inspiration as we struggle to create a greener future for us all.

To you all, my warmest salaams.

Luqman Nagy  
Dhahran, Saudi Arabia  
March 2010





# Chapter 1 Environmentalism and Sustainability in Islam

﴿لَخَلْقُ السَّمَوَاتِ وَالْأَرْضِ أَكْبَرُ مِنْ خَلْقِ النَّاسِ وَلَكِنَّ أَكْثَرَ النَّاسِ لَا يَعْلَمُونَ﴾ غافر: ٥٧

“The creation of the heavens and the earth is indeed greater than the creation of mankind; yet, most of mankind knows not.” *Ghâfir: 57*

## THE PROPHET'S ﷺ MESSAGE

A template for reconnecting with nature and for solving our self-destructive environmental problems can be found in the message of the Prophet Muhammad ﷺ who offered mankind the best example of how to live one's life. His example was a 'green' one which showed how man and his environment were interdependent. It is a pre-modern lifestyle for today's modern world. He encouraged simplicity, moderation and compassion and I believe these alone may be the key to our success in coping with all future environmental issues. The Prophet ﷺ once said:

«الرَّاحِمُونَ يَرْحَمُهُمُ الرَّحْمَنُ، ارْحَمُوا مَنْ فِي الْأَرْضِ يَرْحَمَكُمُ مَنْ فِي السَّمَاءِ».  
(سنن الترمذي)

“The Compassionate One has mercy on those who are merciful. If you show mercy on those who are on earth, He who is in heaven will show mercy on you.” (*Al-Tirmidhi*)

The desecration of nature and the over exploitation of the earth's natural resources have been caused by greed and an unquenchable thirst for power and wealth. Man is also guilty of excessive waste,

Our air, water and soil are being polluted at unprecedented rates. Forests are being destroyed along with their irreplaceable ecosystems. As the world's population approaches seven billion, many large urban centres are becoming almost uninhabitable. We are daily reminded of such concerns on the television and radio and in newspapers. So, just how sustainable is our 21<sup>st</sup> century lifestyle?

Most will agree that our environment is under threat because of the excessive, uncensored and selfish exploitation of the world's natural resources which has occurred over the past two centuries. Although much of the damage already done is irreversible, attempts are being made to minimize the effects of some environmental problems. Today, environmentalism, the active campaign to preserve restore or improve the natural environment, is not a passing fad, but a fact of life.

Environmentalists are attempting to address the imbalance that is creating such havoc in the natural world and no inhabitant of our fragile earth can afford to be impartial to their cause.









# Chapter 16 The Multipurpose Date Palm

﴿وَالنَّخْلَ بَاسِقَاتٍ لَهَا طَلْعٌ نَضِيدٌ﴾ ق: ١٠

“And soaring palm-trees with thickly-clustered dates.” *Qâf*: 10

**P**lants in all their diversity are truly one of the countless blessings of Allah. The Prophet Muhammad ﷺ understood this and initiated a ‘green’ revolution during his lifetime. Environmentalism to him was a holistic issue highlighting the interdependence between man and nature. He ﷺ considered the planting of trees a charitable act as it benefited all of Allah’s creatures.

«مَا مِنْ مُسْلِمٍ يَغْرِسُ غَرْسًا أَوْ يَزْرَعُ زَرْعًا، فَيَأْكُلُ مِنْهُ طَيْرٌ أَوْ إِنْسَانٌ أَوْ بَهِيمَةٌ إِلَّا كَانَ لَهُ بِهِ صَدَقَةٌ». (صحيح البخاري)

“Any Muslim, who plants or transplants a tree from whose fruit a bird, man or any grazing animal eats, will be rewarded from this charitable act.” (*Sahîh al-Bukhârî*)

And Allah reminded believers that the blessings of a harvest were to be shared.

﴿كُلُوا مِنْ ثَمَرِهِ إِذَا أَثْمَرَ وَءَاتُوا حَقَّهُ يَوْمَ حَصَادِهِ﴾ الأنعام: ١٤١

“Eat of their fruit when they ripen, but pay the due thereof (i.e.

their *zakât*, according to Allah’s orders) on the day of their harvest, ...” *Al-An’âm*: 141

Of all the trees, the Prophet ﷺ singled out the date palm as being a very special one. The Prophet ﷺ once said:

«إِنْ قَامَتِ السَّاعَةُ وَبَيَدِ أَحَدِكُمْ فَسِيلَةٌ، فَإِنْ اسْتَطَاعَ أَنْ لَا يَقُومَ حَتَّى يَغْرِسَهَا فَلْيَفْعَلْ». (مسند أحمد، وإسناده صحيح على شرط مسلم)

“If doomsday [الساعة] arrives when you are planting a date palm cutting, continue until you have planted it.” (*Sahîh* under the condition of *Muslim*)

The Prophet ﷺ likened Muslims to the straight and tall date palm tree due to the abundance of its goodness.

«إِنَّ مِنَ الشَّجَرِ شَجَرَةً تَكُونُ مِثْلَ الْمُسْلِمِ وَهِيَ النَّخْلَةُ». (صحيح البخاري)

“There is a tree among the trees which is similar to a Muslim (in goodness), and that is the date palm tree.” (*Sahîh al-Bukhârî*)



only too apparent in the consumer society of the West. Both Allah and His Messenger ﷺ have admonished us not to be wasteful.

﴿إِنَّهُ لَا يُحِبُّ الْمُسْرِفِينَ﴾ الأعراف: ٣١

“... Verily, waste not by excess, for Allah loves not the wasters.”

*Al-A'raf: 31*

In the *sīrah* of the Prophet Muhammad ﷺ, we can see the best example of how to live a life of moderation by conserving and avoiding waste.

«مَا مَلَأَ آدَمِيٌّ وَعَاءً شَرًّا مِنْ بَطْنٍ، بِحَسْبِ بْنِ آدَمَ أَكْلَاتُ يُقِمِّنَ صُلْبُهُ، فَإِنْ كَانَ لَا مَحَالَةَ، فَتُلُكُ لِبَطْعَامِهِ، وَتُلُكُ لِشَرَابِهِ، وَتُلُكُ لِنَفْسِهِ». (سنن الترمذي)

The Prophet ﷺ reported: “It is sufficient for the son of Adam ﷺ to eat a few mouthfuls to keep him going. If he must do that (i.e. fill his stomach), then let him fill one-third with food, one-third with drink, and one-third with air.” (*Al-Tirmidhī*)

إِنَّ النَّبِيَّ ﷺ مَرَّ بِسَعْدٍ وَهُوَ يَتَوَضَّأُ، فَقَالَ: «مَا هَذَا السَّرْفُ يَا سَعْدُ؟» قَالَ: أَفِي الْوُضُوءِ سَرْفٌ؟ قَالَ: «نَعَمْ وَإِنْ كُنْتَ عَلَى نَهْرٍ جَارٍ». (مسند أحمد)

Narrated on the authority of ‘Abd Allah ibn ‘Umar ﷺ, that the Prophet ﷺ passed by Sa’ad ﷺ when he was performing ablution (*wudhu*). He ﷺ said: “What wastage is this?” Sa’ad ﷺ said: “Is there wastage in *wudhu* also?” The Prophet ﷺ said: “Yes, even if you are at a flowing river.” (*Musnad Ahmad*)

## SUSTAINABILITY AND ISLAM

*Tawhīd* (توحيد), the doctrine of the absolute Oneness of Allah, forms the basis for any Islamic view of the world, including the notion of sustainability. The universe originates with Allah and to Him everything returns. Allah is the Sustainer (المقيت) of His Creation.

﴿وَهُوَ يُطْعِمُهُ وَلَا يَطْعَمُهُ﴾ الأنعام: ١٤

“... And He feeds all and is fed by none.” *Al-An’ām: 14*

Sustainability is the capacity of the earth to endure – continue supporting life in all its varied forms – despite the many threats to the natural world. Humanity today is clearly living unsustainably, as evident in the waste and depletion of our finite natural resources. We should all be concerned about how man can return to living more sustainably.

## IBN KHALDUN AND SUSTAINABILITY

In Islamic history, one of the first true environmentalists was the great Arab social historian, Ibn Khaldun (1332-1406). Like the Prophet ﷺ, Ibn Khaldun believed environmentalism to be a holistic issue with the interdependence of man and his habitat at its centre. If humankind is to solve its environmental problems, a ‘green’ revolution is needed; if humankind is to continue living on this planet; it must adopt sustainable technologies that are simple, practical and doable. Ibn Khaldun closely observed the

<sup>1</sup> All dates in this book are Gregorian dates according to the Christian calendar. Dates preceding the Christian (Common) Era are followed by BCE.





# Chapter 5 The Marsh Arabs

﴿يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تَدْخُلُوا بُيُوتًا غَيْرَ بُيُوتِكُمْ حَتَّى تَسْتَأْذِنُوا وَتُسَلِّمُوا عَلَى أَهْلِهَا ذَلِكُمْ خَيْرٌ لَكُمْ لَعَلَّكُمْ تَذَكَّرُونَ﴾ النور: ٢٧

“O, you who believe! Enter not houses other than your own, until you have asked permission and greeted those in them; that is better for you, in order that you may remember.” *An-Nur: 27*

It is generally acknowledged that Mesopotamia, ‘the land between the two rivers’, is one important cradle of civilization. Unbeknown to many, however, is the traditional Muslim society – presently inhabiting the marshlands of southern Iraq – that may share a direct link with the ancient Sumerians! For at least seven thousand years, people have dwelled in these wetlands, fed by the Tigris and Euphrates Rivers, but only at the end of the 20<sup>th</sup> century was this unique culture threatened with extinction. The Marsh Arabs of today are survivors and continue to defy all odds by continuing to inhabit their ancestral home.

## REED HOUSES

The Marsh Arabs (عرب الأهوار) or the *Ma’dân* (معدان) are a unique people. Unlike the dry, sandy environments usually associated with Middle Eastern societies, the Marsh Arabs live in a watery world and form a part of its complex ecosystem. They live and work on artificial floating houses and islands; they commute between them via dugout canoes. Their traditional economy is based on fishing, reed weaving and dairy products supplied by water buffalo. What is most characteristic of the Marsh Arab culture is the

remarkable architecture achieved using the only available building material: the giant marsh rushes. All their buildings, and indeed their floating foundations<sup>11</sup>, are made out of reeds. The largest rushes can grow to a height of seven metres. Twenty or thirty of these long reeds are bundled together to form pillars<sup>12</sup> for the arched framework. Once a skeletal frame has been produced, the entire structure is then covered in woven matting. While reeds are flammable, prone to insect infestation and require continuous maintenance when used as a building material, they are good insulators, light and easy to work with. They also grow naturally and need no processing.

These are truly some of the most interesting, beautiful and totally sustainable buildings ever built by man. No glass, wood, or metal of any kind is used in their construction.

## WILFRED THESIGER

Wilfred Thesiger (1910-2003), the famous British explorer and travel writer of the Middle East, spent many years living with

<sup>11</sup> Each house rests on a floating island made of rushes and compressed mud.

<sup>12</sup> The pillared main entrances are always oriented towards Holy Makkah.





# GREEN MUSLIMS

## The True Custodians of the Earth



﴿وَعِبَادُ الرَّحْمَنِ الَّذِينَ يَمْشُونَ عَلَى الْأَرْضِ هَوْنًا﴾ الفرقان: ٦٣

“And the (true) servants of the Most Gracious (Allah) are those who walk gently upon the earth, ...” *Al-Furqân: 63*



